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By Sharon Keeler
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DURHAM, N.H. -- Sometimes the best way to manage a forest is to let nature run its course. And sometimes it's not.

What has often been reduced as a battle between developers and "tree lovers" is a more complicated issue, says Robert Eckert, University of New Hampshire professor of natural resources and environmental conservation. It involves creating common vision and developing management policy, which often includes controlling human access and manipulating the natural environment, itself, to help maintain species diversity.

Eckert and fellow professors Thomas Lee, Mimi Becker, Kimberly Babbitt, Christine Evans and Russ Congalton have turned university-owned lands into a living laboratory to study the development of ecological reserves. These are protected geographic areas that contain ecosystems of high intrinsic value. The goal of their project is to teach students to assess and maintain overall biodiversity in an ecosystem, and -- perhaps most challenging -- to work collaboratively with the timber industry, and state and private landowners who may have differing viewpoints.

"Our methodology is to work on a local level, and offer research results that can be shared with the larger community," says Eckert, who is working with Lee, associate professor of plant biology, to assess forest vegetation in the university's College Woods and Highland Farm in Durham. "Research by the New Hampshire Ecological Reserve System Scientific Advisory Group found that the state's current conservation lands do not capture the diversity of the state; they were lands set aside mostly for scenic value."

Eckert and Lee explain how a recent assessment of UNH's Highland Farm typifies complex management issues common beyond the university. One of Eckert's students, Denise Ernst, helped complete an inventory of the property that revealed communities of several uncommon species, pignut hickory, black ash and swamp white oak. These species need a lot of sunlight

to flourish, but may eventually be crowded out by increasing stands of pine and maple.

Now some might say that's the way nature intended things to be. While Eckert says that may true, he adds that it's important to protect marginal populations that may contain genes important for species survival in a changing environment. Pignut hickory, for example, grows mostly in warmer climates, but edge populations in New Hampshire may contain genes that confer adaptations to stress, like extreme cold. This will become increasingly important if species migrate north due to global warming.

Lee says UNH affords students the perfect environment to study natural areas in a suburban setting. Many of the issues they examine at Highland Farm and College Woods are akin to those faced in other communities. Do you establish core reserves of uncommon species? Put a trail through a buffer zone to allow human access? If you cut down a tree, will that impact the undergrowth? What effect will developing a nearby road have on the land's ecosystem?

"To manage a piece of land properly you must decide how it fits into the bigger picture," says Lee. "There are species of birds, like meadowlarks for example, that need fields. How much should be field, and how much should be forest? You need to be able to hear differing points of view and find common ground."

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